

33. CORALLINA TENELLA, *Kütz.*

Suakim. This plant was identified for me by Dr. Reinhold.

34. LITHOPHYLLUM AFFINE, *Fosl.*

Suakim. Dr. Foslie informs me that this species is probably only a variety of *L. Kaiserii*, Heydr., or both may be varieties of the Pacific species *L. pallescens*, Fosl.

35. GONIOLITHON MYRIACERPON, *Fosl.*

Suakim. According to Dr. Foslie this is a variable species, and he identified the plant I sent him with a query.

APPENDIX.

The following two species of Potamogetonaceæ were also present in the collection, viz., *Cymodocea nodosa*, Aschers., and *Halophila stipulacea*, Aschers.; and also *Najas marina*, Linn. (Naiadaceæ), from Suez mud-flats. Fragments of *Salicornia fruticosa*, Linn., were also present in the same gatherings.

REPORTS ON THE MARINE BIOLOGY OF THE SUDANESE RED SEA.—X. HYDROIDA collected by Mr. C. Crossland from October 1904 to May 1905. By LAURA ROSCOE THORNELY. (Communicated by Professor W. A. HERDMAN, F.R.S., P.L.S.)

(PLATE 9.)

[Read 5th November, 1907.]

THERE are 18 species in the collection belonging to 12 genera and 4 families. Of a few of these species there is a considerable quantity, but most are represented by a few colonies only and some by but one, or by a fragment of a colony. They were collected from such places as the floating stage in the Suez docks, the quay-side at Suakim, or from the sides of a floating buoy; they are growing upon seaweeds or upon each other, and some are a good deal overgrown by seaweeds. They range pretty well from north to south of the Sudan coast.

Suborder ATHECATA.

Family BOUGAINVILLIIDÆ.

PERIGONIMUS VAGANS, sp. n. (Plate 9. fig. 1.)

Trophosome.—Colony much branched, about $1\frac{1}{2}$ inches in height. Branches alternate, but inclining all to one side, narrower than the stem and narrowest at the base, where there are a few corrugations. The whole perisarc is coated with sand, giving the colony a yellowish colour.

Polypites, some small on short stalks and with few tentacles, some larger on longer stalks with about 25 tentacles. Both sizes carry gonophores.

Gonosome.—Gonophores borne on short stems, situated on the branches close below the hydranth and containing one medusa each.

Locality.—Khor Shinab, 10–12 fathoms.

Family EUDENDRIIDÆ.

EUDENDRIUM RAMOSUM, *Linné*.

Some fragments, probably belonging to this species.

Locality.—Khor Dongola, 3 fathoms.

Family PENNARIIDÆ.

PENNARIA SYMMETRICA, *Clark* *.

Numerous colonies, broken at their bases, 5 inches by $1\frac{1}{2}$ inches in size, without gonophores.

Localities.—Shab al Shubuk ; quay-side, Suakim.

Suborder THECAPHORA.

Family CAMPANULARIIDÆ.

OBELIA BIFURCATA, *Hincks* †. (Plate 9. fig. 2.)

The height of this species is not given by Hincks, but as it is growing on a small polyzoon, *Nellia oculata*, it cannot be large. The present colonies are under an inch in height. Hincks's species had a simple stem, while these are slightly branched and have the rudiments of a polysiphonic stem, as described by Bale for his *Campanularia spinulosa*. The very long hydrothecæ with about 12 bicuspid denticles, which are not sharp-pointed, borne on short ringed stems, are, however, the same as described for this species by Hincks

* Bull. Mus. Comp. Zool. Harvard, vol. v. no. 10.

† Journ. Linn. Soc., Zool. vol. xxi. 1889, p. 133.

in his original description. The number of rings on the pedicel varies, those higher up on the stem having the shorter pedicels.

The gonothecæ, which are seen here for the first time, undoubtedly belong to an *Obelia*, a fact which therefore fixes the species in this genus. They are not much larger than the large hydrothecæ, and are borne on pedicels with about 5 rings each.

Locality.—Khor Shinab, 10–12 fathoms.

CAMPANULARIA JUNCEA, *Allman* *.

Small overgrown pieces only.

Locality.—Khor Dongola, 20 fathoms.

CAMPANULARIA DENTICULATA, *Clark* †. (Plate 9. fig. 3.)

The present specimens agree with Torrey's ‡ description of this species in height, in branched stem, in the stem opposite the origin of each hydrothecal pedicel taking a knee-like bend, and in the pointed teeth of the hydrotheca. It differs in the pedicel not being always ringed throughout, and in the teeth of the hydrotheca being rather fewer.

The most striking feature of the present species is the mode of branching. The stem rises straight to the base of the hydrothecal pedicel and then takes a bend, after which it rises straight again to the next hydrotheca on the opposite side, and this is repeated sometimes for eight or nine times with the occasional complication of two pedicels being given off at once, nearly opposite to each other or on the same side, one below the other.

Gonothecæ, previously unknown, are to be seen on these specimens. They are situated, usually, near the base of a hydrothecal pedicel, singly, or two opposite, or are, sometimes, given off from the stem. They are borne on short faintly ringed stalks and are very long and cylindrical with blunt tops (see fig. 3).

Locality.—Khor Shinab, 10–12 fathoms.

CAMPANULARIA CHELONÆ, *Allman* §.

One small specimen.

Locality.—Khor Dongola.

LOVENELLA CORRUGATA, sp. n. (Plate 9. fig. 4.)

Trophosome.—Colony long and straggling and sparsely branched, about 2 inches high. Stem of a pale brown colour, perfectly smooth and unringed,

* Journ. Linn. Soc., Zool. vol. xii. (1874) p. 260.

† Proc. Acad. Nat. Sci. Phil. xxviii. (1876).

‡ "Hydroids of the Pacific Coast," Univ. Cal. Publ. vol. i. (1902).

§ Voy. H.M.S. 'Challenger,' vol. xxiii.

bending to left and right alternately and giving off a hydrotheca at each bend, or sometimes instead of a hydrotheca a long weak-looking tendril, these last are all to be seen on the lower portion of the stem. Hydrothecæ deeply cylindrical, borne on ringed pedicels, resting on an elbow of the stem. Pedicel with 2 to 6 rings, but usually with 4; margin of the hydrotheca with about 10 crenulations meeting the conical operculum at its base. The sides of the hydrotheca slightly fluted on its upper half and corrugated about six times below. Gonothecæ not present.

This species very much resembles figures of *Lovenella clausa*, but the corrugated hydrotheca is a marked difference between the two species.

Locality.—Khor Dongola, 20 fathoms.

CALYCELLA ? sp. (Plate 9. fig. 5.)

A minute form, without rings to the short pedicel, creeping over a *Perigonimus* colony.

Locality.—Khor Shinab, 10–12 fathoms.

Family SERTULARIIDÆ.

SERTULARIA MINIMA, *D' A. W. Thompson* *.

This species is well represented, covering a seaweed with its interlacing stolons, from which stems, composed of 5 pairs of hydrothecæ at most, rise to the height of $\frac{1}{8}$ of an inch merely. They are unbranched; the whole is coloured like the seaweed, a bright straw-colour.

The pairs of hydrothecæ are united in front and set far forward on the stem and their 2 lateral, marginal teeth, when not concealed by the operculum, are conspicuous. As there are no gonothecæ to help in the identification of the species, this full description becomes necessary.

Locality.—Floating stage, Suez docks.

DIPHASIA MUTULATA (*Busk*) †.

Several unbranched colonies $2\frac{1}{2}$ inches in height, attached to a *Lytocarpus*. The stem and branches in the specimens are jointed. No gonothecæ are present.

Localities.—Floating stage, Suez docks; and Suez Bay, 5 fathoms.

THUIARIA TUBULIFORMIS (*Marktanner-Turneretscher*) ‡.

The present specimens are not more than 1 inch in height and have no

* Ann. & Mag. Nat. Hist. 1879.

† Voyage of the 'Rattlesnake,' 1852.

‡ Hydroiden des k.-k. naturhist. Hofmuseum, 1890.

gonothecæ, but probably belong to this species, as they agree with the description by Nutting*.

Locality.—Suez Bay, 10 fathoms.

SYNTHECIUM MALDIVENSE, *Borradaile* †.

The present specimens are about 6 inches in height, composed of a stem, having hydrothecæ, 3 to an internode, and branches, bearing groups of hydrothecæ in pairs, 2 or 3 pairs to a group. The hydrothecæ have a hooded appearance when the upper valve of the operculum is open, but when closed are seen to have a point on either side. There are no gonothecæ present.

Locality.—Floating stage, Suez docks.

Family PLUMULARIIDÆ.

PLUMULARIA SETACEA, *Ellis*.

A few colonies growing on coral.

Locality.—Khor Dongola.

PLUMULARIA ALTERNATA, *Nutting* ‡.

Present in small quantity only.

Locality.—Coral-reef, Khor Dongola.

PLUMULARIA HALECIOIDES, *Alder* §.

There is a good quantity of this form.

Locality.—Suez dock, floating stage.

LYTOCARPUS PHILIPPINUS (*Kirchenpauer*) ¶.

One colony only is present.

Locality.—Suakim Harbour.

LYTOCARPUS (?) HORNELLI, *Thornely* ¶¶.

These specimens, which are very fragmentary, are of a much more substantial nature than those collected from off the coast of Ceylon. The branches bearing hydrocladia are polysiphonic at their bases like the stem. What are described in the Ceylon report ¶¶ as strings of nematophores, alternating with the hydrocladia on the branchlets, are now seen to be complete hydrocladia, as hydrothecæ are also present along with the nematophores.

* 'American Hydroids,' 1904.

† 'Fauna and Geography of the Maldive and Laccadive Archipelagoes,' vol. ii. pt. 4.

‡ 'American Hydroids,' pt. 1.

§ Ann. & Mag. Nat. Hist. ser. 3, vol. iii. (1859).

¶ Ueber die Hydroiden Familie Plumulariidae, pt. 1 (1872).

¶¶ Herdman's Report on Ceylon Pearl Fisheries—Suppl. Rep. viii. p. 123.



L. R. Thorneley, del.

HYDROIDA FROM THE SUDANESE RED SEA.

Gonangia are absent from these as from the Ceylon specimens, and so are still unknown.

Locality.—Suez Bay, 5 fathoms.

There appears to be a resemblance between this species and Elof Yäderholm's * *L. gracilicaulis* in the polysiphonic stem, the arrangement of the hydrocladia, and in the form of the hydrothecæ, but his form is unbranched. The absence of gonangia from both makes identification uncertain.

ADDENDUM.—While this paper was passing through the press, Mr. C. Crossland sent from Port Sudan some half-dozen colonies of a new (?) species of *Ceratella*, which are described as follows:—

Family CERATELLIDÆ, Gray.

CERATELLA *CROSSLANDI*, ? sp. n.

Colony erect; stem deep brown in colour, flattened, much branched, anastomosing here and there and often expanding into spongy extremities, which sometimes adhere to other branches or to foreign bodies, spreading over them in a root-like manner. *Hydrophore* reduced to two wing-like pointed processes, one on either side of the aperture through which the zooid protrudes. *Zooids* situated on all sides of the stems, sparsely or fairly crowded in places and varying in size, the largest having from 30–40 scattered, capitate tentacles. *Gonophores* not seen.

Locality.—Several colonies, the largest measuring 9 inches high by 12 inches wide, growing on shells, and attached to the undersides of vessels at Port Sudan.

This may be a larger form of Hickson's *C. minima* from Zanzibar, but differs in some respects.

L. R. T.

10th October, 1908.

EXPLANATION OF PLATE 9.

Fig. 1. *Perigonimus vagans*, sp. n.

2. *Obelia bifurcata*, Hincks. Showing gonothecæ (previously unknown).

3. *Campanularia denticulata*, Clark. Showing gonothecæ (previously unknown).

4. *Lovenella corrugata*, sp. n.

5. *Calycella*? sp.

* "Aussereuropäische Hydroiden in Schwedischen Reichsmuseum," Archiv. Zool. i.